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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,976	09/22/2003	Jang-Tzeng Lin	LINJ3048/EM	4956
23364	7590	06/23/2005	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			RILEY, SHAWN	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/664,976	<b>Applicant(s)</b> LIN ET AL.	
	<b>Examiner</b> Shawn Riley	<b>Art Unit</b> 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 May 2005 Arguments.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Response to Applicants Arguments*

Applicants argument of 11 May 2005 has been reviewed but not deemed persuasive.

Applicants argue that;

According to the Examiner, the claimed frequency converter for converting low voltage DC into low voltage AC corresponds to transformers 111-115. This interpretation is clearly incorrect. Transformers 111-115 isolate the AC inputs and do not perform a low voltage DC to low voltage AC conversion.

Applicants claim;

an frequency converter unit for receiving the low voltage and converting it into a high frequency low AC voltage;

examiner's response;

no where in this claim does it state (as applicants have alleged) the frequency converter converts low voltage DC into low voltage AC. The claim simply states a low voltage into a higher frequency AC voltage. Nothing more or less. For the record, note that conversion of dc-ac is well known if it were to be claimed in this instance. For example, the power source 100 may have a battery attached thereto or it may be well known to attach a battery thereto, etc. and convert it to ac. That may be in fact the source of the ac.

Applicants state;

In addition, according to the Examiner, the claimed high voltage module corresponds to circuits 11-15. Again, this interpretation is clearly incorrect. The output of circuits 11-15 is a DC voltage (col. 3, line 3), which follows from the fact that these circuits include a rectifier and voltage regulator.

Examiner's response;

The high voltage module is contained in 11-15 not the whole of 11-15.

Applicants State;

Further, the DC voltage output by circuits 11-15 is not even a relatively high voltage.

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Examiner's Response;

The specification considers and refers to these circuits at column 2 lines 39-40 as "at high potential".

Applicant's state;

Thus, neither transformers 111-115 nor circuits 11-15 correspond to either the claimed frequency converter or high voltage module. Of course, since the output of circuits 11-15 is DC, there can be no equivalent to the claimed AC to DC wideband modulation unit.

Examiners Response;

If the output of 11-15 is DC and the input to 11-15 is AC, then how can applicant maintain that "the output of circuits 11-15 is DC, there can be no equivalent to the claimed AC to DC wideband modulation unit"?

For at least the above reasons, this action is made final.

***Claim Rejections - 35 U.S.C. § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 are rejected under 35 U.S.C. §102(b) as being fully anticipated by Ichikawa et al. (U.S. Patent 4m747,036). Ichikawa et al shows,<sup>1</sup> (in, e.g., the(ir) figures and corresponding disclosure)

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<sup>1</sup> Note claims will be addressed individually and the material in parentheses are the examiner's annotated comments. Further unless needed for clarity reasons, recited limitation(s), will be annotated only upon their first occurrence. Annotated claims begin with the phrase "As to claim". Claims that are not annotated are seen as having already had the invention(s) addressed previously in an annotated claim. Bolded words/phrases indicate rejected material based 112 paragraph rejections. Underlined

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As to claim 1;

A programmable photo-coupler-isolated wide band modulator for high voltage power supply, comprising: a low voltage power supply unit providing at least one low voltage (input from 100); a frequency converter unit (111/112/113/114/115) for receiving the low voltage and converting it into a high frequency low AC voltage (output of 111/112/113/114/115); a high voltage module (11/12/13/14/15) for receiving the AC voltage and increasing the AC voltage; and a wide band modulation module coupled to the high voltage module for converting the AC voltage into a DC voltage (via output of, e.g., TR21/LED21/71) and receiving an external modulated signal (output of LED21), the modulated signal being activated to switch the DC voltage for generating and outputting a wide band modulated DC voltage.

As to claim 2;

The power supply as claimed in claim 1, wherein the high voltage module comprises a high voltage switch (1/2/3/4) assembly for outputting either a single or a double polarity output (depending on the location of the output being taken).

As to claim 3;

The power supply as claimed in claim 2, wherein the high voltage switch assembly comprises a plurality of high voltage switches (1/2/3/4).

As to claim 4;

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words/phrases indicate objected to material. For method claims, note that under MPEP 2112.02, the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). Therefore the previous rejections based on the apparatus will not be repeated.

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The power supply as claimed in claim 3, wherein the high voltage switch is a transistor (Ichikawa et al shows a multi-electrode semiconductor device, thyristor type of transistor).

As to claim 5;

The power supply as claimed in claim 1, wherein the wide band modulation module comprises a transformer isolator circuit (111/112/113/114/115) and a photo-coupler-isolated circuit (LED21/LED22/LED23/LED24/LED25) coupled to the transformer isolator and the high voltage switch (through e.g., TR21/TR22/TR23/TR24) assembly respectively.

As to claim 6;

The power supply as claimed in claim 5, wherein the photo-coupler-isolated circuit is capable of receiving the modulated signal and switching each of the high voltage switches as enabled by the modulated (signal.

As to claim 7;

The power supply as claimed in claim 1, wherein the wide band modulation module comprises a transformer isolator circuit for isolating a low voltage input side from a high voltage output side and a photo-coupler-isolated circuit (see rejection of claim 5).

As to claim 8;

The power supply as claimed in claim 7, wherein the photo-coupler-isolated circuit comprises a plurality of optical couplers (LED21/LED22/LED23/LED24/TR21/TR22/TR23/TR24) for receiving the modulated signal.

Note that applicants are presumed to have knowledge of their art and therefore may be expected to recognize, e.g., what a dc converter would be. Further, differences should be pointed out not between disclosure and the prior art but what is claimed and the prior art. The rejection of the instant invention did not rely on the disclosure but the claims in light of the disclosure. That is, the rejection is based heavily on what the claims state and not solely on what the disclosure discloses. As recited, the claims are anticipated by the disclosure of the prior art.

***Claim Rejections - 35 U.S.C. § 103***

3. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

4. Claims 9-11 are rejected under 35 U.S.C. § 103 as being unpatentable over Ichikawa et al (U.S. Patent 4,747,036). The Ichikawa et al reference discloses the limitations of the invention as claimed as described above. However, Ichikawa et al does not show a computer for generating a modulated signal and displaying the same. It would have been obvious at the time the invention was made to utilize a computer for generating a modulated signal and displaying the same into the circuit of Ichikawa et al for the reason of providing automatic means to replace manual means which has accomplished the same result involves only routine skill in the art. *In re Venner*, 120 USPQ 192.

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Further, the Ichikawa et al reference discloses the limitations of the invention as claimed as described above. However, Ichikawa et al does not show the high voltage module increases the AC voltage for supplying a voltage from 0V to 50 KV. It would have been obvious at the time the invention was made to utilize the high voltage module increases the AC voltage for supplying a voltage from 0V to 50 KV into the circuit of Ichikawa et al for the reason of providing an optimum range where the general conditions of a claim are disclosed in the prior art, discovering the optimum range or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Further, the Ichikawa et al reference discloses the limitations of the invention as claimed as described above. However, Ichikawa et al does not show the wide band modulated DC voltage is obtained at a frequency about 100 KHz. It would have been obvious at the time the invention was made to utilize the wide band modulated DC voltage is obtained at a frequency about 100 KHz into the circuit of Ichikawa et al for the reason of discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA).

***Allowable Subject Matter***

5. No claims are allowable over the prior art of record.

***Conclusion***

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date



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of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341. Any inquiry from the applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Mike Sherry who can be reached at 571.272.2084. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case should be directed to 2800's Customer Service Center at 571.272.2815. Any papers to be sent by fax MUST BE sent to fax number 703.872.9306. Any inquiry of a general nature of this application should be directed to the Group receptionist whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

June 05

  
**Shawn Riley**  
**Primary Examiner**